Region 1 FY 2011 Invasive Species Control Program Proposal

Refuge/complex name: Malheur National Wildlife Refuge

Project title: Common Carp Movement Control at Malheur National Wildlife Refuge

Project description:
Invasive common carp *Cyprinus carpio* were introduced into the Harney Basin in the 1920's and were recognized as a problem in Malheur Lake in 1952. The common carp have degraded the wildlife value of the Refuge by competing for the same food base as many resident and migrating species and immensely decreasing water quality. Rotenone, a non-species specific piscicide, has been the primary treatment to control the carp population, but has only been an effective short term tool. Wildlife benefits are observed for 3 to 5 years after rotenone treatment until the carp population rebounds causing increased water turbidity and decrease of wildlife food availability. Malheur National Wildlife Refuge is 187,757 acres and has 2000 miles of waterways. At any place where water on the Refuge is available, carp can and will inhabit if passage is not blocked. Current carp control strategies are water level manipulation, fish traps and screening. Therefore, **we are proposing to construct 3 effluent fish screens on Boca Lake, Benson Pond and Crane Pond to stop carp upstream passage from the Blitzen River into these water bodies. These three water bodies have high habitat value when carp are absent**. The project methodology would be as follows: 1. Drain water bodies and let them dry out, 2. Install effluent screens. 3. Fill waterbodies with water. 4. Inventory and monitor submergent and emergent vegetation and wildlife response as part of the refuge inventory and monitoring plan. By draining the water, screening off passage from the Blitzen River to these ponds and then refilling the waterbodies over 1000 acres will be unavailable to carp at all life stages. The Refuge over the past decade has invested more than 4 million dollars in fish screening, traps and native fish passage and this will be the next step in gaining control of common carp.

Comment [BFW1]: IPM

Comment [BFW2]: Monitoring

What is the potential for eradication of the invasive species?
Eradication of carp is a long term strategy for the Refuge waterways and has great potential in segregated areas of the Refuge. This project will specifically secure 1000 acres for wildlife by deterring carp movement and spawning. Refuge staff has worked hard formulating a strategic infrastructure strategy and water rotation to eradicate carp from specific, manageable areas of the Refuge.

Does the project support achieving the refuge purpose?

The Blitzen Valley was added to the Lake Malheur Reservation under Executive Order No. 7106 signed by President Franklin D. Roosevelt on July 19, 1935. The Order specified that the land was for use ***"as a refuge and breeding ground for migratory birds and other wildlife"***. This project directly addresses reclaiming ground for migratory birds and other wildlife by controlling and/or eradicating carp from over 1000 acres of habitat. Furthermore, these structures bring the Refuge closer to fulfilling its ultimate goal of eradicating carp by enabling segmentation and screening of the three main water bodies effluent.

Does the project support biological integrity?
This project supports the maintenance and restoration of biological integrity of 1000 acres of Refuge by reclaiming habitat for the native wildlife, fishes and plants by eliminating the reintroduction of carp from the effluent of three water bodies flowing into the Blitzen River. Vital habitat and aquatic health will be restored for the betterment of the species that once thrived prior to the introduction of common carp.

Will the project involve support from partners?

The **project cost request is $36,000** for the design, manufacturing and installation of 3 fish screens. The Refuge will use the modified screen design of Mark Lindvall and Roger Foster from Fort Niobrara/Valentine National Wildlife Refuge Complex.
This project involves support from the Malheur Wildlife Associates of $10,000 in- kind for pre and post project monitoring and inventory staff and volunteers. The Refuge agrees to support this project in-kind by furnishing labor (maintenance, youth conservation core and biology staff time), heavy equipment and maintenance to this project worth ~$30,000.

What monitoring will be used to evaluate the project?

Historically Benson Pond, Boca Lake and Crane Pond are sites consistently monitored for bird usage and habitat conditions. Fish populations of these sites pre-screening will be estimated during draining. Post project monitoring will occur on wildlife species use, habitat assessment and aquatic health response. Efficacy will be achieved when bird usage, aquatic health and habitat conditions increase.
The project will be monitored and inventoried each month for 3 years post screening by the Refuge staff, Youth Conservation Corp, volunteers or interns.

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